

## ABSTRACT

A dual band, dual pol, variable downtilt, 90 degree azimuth beamwidth  
5 antenna (10). The antenna includes dipole elements (12, 14) forming both a PCS  
band and a cellular band antenna. The PCS band antenna has two sections  
disposed each side of the cellular band antenna, the elements of each being  
positioned 90° with respect to the other. A microstrip feed network formed upon  
a common PC board (18) feeds the respective dipole elements, and has  
10 serpentine portions with a corresponding dielectric member slideable thereover to  
establish the phase of the associated dipole antennas and achieve a linear downtilt  
of the respective antenna array. A slide rod adjustment assembly (100) provides  
unitary movement of the dielectric members between two different slide rods.  
These dielectric members are secured with adhesive to the respective slide rods to  
15 achieve good dielectric control and no use of hardware. The radiating dipole  
elements are capacitively coupled to each microstrip, and are also capacitively  
associated reflector element. One arm of the reflector element is offset at least 45  
degrees with respect to the other arm to improve cross polarization.